

Software tool helps pump up oil wells' yield

With the help of software tools developed by scientists at Argonne's Mathematics and Computer Science Division, a supercomputer has conducted a breakthrough simulation of oil-reservoir behavior many times faster and in greater detail than methods commonly in use.

Satish Balay and Barry Smith (both MCS) tailored Argonne's PETSc (Portable, Extensible Toolkit for Scientific Computation) to allow an oil-reservoir simulation program developed by researchers at the University of Texas to run on an IBM SP supercomputer. The software is designed to test, and predict, what will happen in the reservoir if, for example, high-pressure gas is injected into the reservoir to push oil toward production wells.

"The idea is to predict if the oil is going to go where you want it to," said Tom Morgan (MCS), program manager. "But when you're dealing with something like an oil reservoir, you're potentially dealing with millions and millions of data points. It's just not doable on a sequential machine."

Sequential machines, like desktop PCs and traditional mainframe computers, solve large, complex problems one

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step at a time. PETSc is a "tool kit" designed for parallel computers, which divide problems into components and send them to multiple processors to be solved simultaneously, thereby solving the problem faster.

The program divides the underground volume of the reservoir into "gridblocks," each representing a small volume of the reservoir. Each gridblock has several variables like rock porosity, pressure, density and temperature.

A series of simulations was run on an IBM SP supercomputer. The largest test, which involved four million gridblocks and 32 million unknowns, took 23 minutes to run on a 128-processor SP parallel computer.

Today's typical simulation software, running on a workstation, would require about a day

to solve a simulation of only 80,000 unknowns.

PETSc can be adapted to many kinds of problems that require parallel computers. MCS has developed several software tools like PETSc for use in solving problems requiring huge numbers of calculations.

Argonne's computer scientists were pioneers in developing "portable" software, which can be used on different computers. Previously, software tools were mainly written for specific machines and could not be used on other models without extensive modification.

MCS researchers were also instrumental in developing the "message passing interface" standard, which allows the many processors in a supercomputer to communicate with each other — sending data required for calculations back and forth. With this interface standard, parallel processing supercomputers are able to attack a wider variety of problems.

Argonne computer scientists continue to refine high-performance-computing software tools which are available to all scientists at the laboratory. The goal is to develop software that allows scientists to concentrate on the problem at hand, not on

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Book bonanza

Employees comb through some of the hundreds of used books for sale at the Argonne Combined Appeal book sale Sept. 10-11. The charity campaign officially begins Oct. 5-6 with a clothing drive (see story below and on page 2).

1998 Appeal begins with clothing drive

The Argonne Combined Appeal will kick off its 1997 campaign with a clothing drive on Monday and Tuesday, Oct. 5-6.

Donations of clean, wearable clothing will be collected from 7:30 a.m. to 5:30 p.m. Monday, and from 7:30 a.m. to 2:30 p.m. Tuesday in the lobby of Argonne-East's Building 213 Cafeteria.

Men's, women's and children's clothing will be accepted. Children's clothing is especially needed. Donations are tax deductible.

Volunteers are needed to help collect and sort clothing. Call Sally Ott (ECT) at ext. 2-8537 to volunteer.

Clothing will be donated
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Fradin to reveal the 'State of the Laboratory'

Interim Laboratory Director Frank Fradin will present Argonne's annual State of the Laboratory address Wednesday, Sept. 23, at 10 a.m. in Argonne-

East's Advanced Photon Source Conference Center, Building 402.

Additional viewing by closed-circuit video will be available in the Building 203 Auditorium.

Shuttle service will be provided from Bldg. 900, the 200 area (Bldgs. 200, 201, 202, 203, 205, 208, 212, 221, 222 & 223), the 300 area and the east area.

Argonne Club hosts trip to see comedian Cosby

The Argonne Club is selling tickets for a performance by legendary comedian Bill Cosby at the Rialto Square Theatre, Joliet, on Sunday, Nov. 15.

The club has purchased a block of excellent main-floor seats for the show, which will begin at 7 p.m.

Tickets will be sold in Ar-

gonne-East's Building 213 Cafeteria starting Monday, Sept. 21, from noon to 1 p.m. Tickets are \$30 each, and will be limited to four per person.

Inside this issue ■ MCS plans 'open house' ■ Combined Appeal agencies to visit ■ Road work planned at Argonne-East ■ Clean-up walk to be held Oct. 2

Lab's newest supercomputer to be dedicated at Math & Computer Science 'open house'

To celebrate the expansion of Argonne's high-performance computing facilities, the Mathematics and Computer Science Division will host an open house from noon to 5 p.m. Friday, Oct. 16, in Argonne-East's Building 221.

Showcased at the open house will be Argonne's new SGI Origin2000 supercomputer and the newly expanded four-wall CAVE virtual reality environment.

Activities will include informal presentations and demonstrations illustrating the potential of these new high-performance systems.

Visitors will see, for example, how Argonne researchers are prototyping new designs and simulating complex scientific phenomena in the CAVE and on its smaller counterpart, the ImmersaDesk.

Visitors will also have an opportunity to talk with scientists about their research in such di-

verse areas as climate modeling, numerical software, computational chemistry, networking, and collaborative environments.

To help manage the flow of visitors through the building, MCS recommends that employees attend before 3 p.m., if possible, because faculty and students from local universities are expected during the last two hours.

For more information, see the MCS open house Web site at www.mcs.anl.gov/openhouse.

Roadwork to be done on weekend

Crack sealing and road-way striping will be performed on several roads at Argonne-East during the weekend of Sept. 19.

Maintenance work will be done on portions of Westgate, Eastwood, Inner Circle, and Rock roads. The cracks will be cleaned out, filled with hot asphalt and sprinkled with sand.

Employees should avoid these areas over the weekend while the asphalt cures and new reflective striping dries.

Combined Appeal agencies to visit ANL-East

Representatives from agencies supported by the Argonne Combined Appeal will be available the week of Sept. 21 from 11:30 a.m. to 1:30 p.m. in the lobby of Argonne-East's Building 213 Cafeteria.

Agency staff will answer questions and tell employees how their donations benefit these organizations.

Agencies scheduled are:

Monday, Sept. 21

■ American Red Cross — A humanitarian not-for-profit organization that provides relief to victims of disasters; health and safety education; and emergency communications to help prevent, prepare and respond to emergencies.

■ 4-H Clubs — A voluntary informal education program for boys and girls ages 5-18.

Tuesday, Sept. 22

■ YMCA, Indian Boundary — Provides programs for children, adults and families.

■ United Way Will County — A not-for-profit human ser-

vices organization serving all the communities of Will County. Its primary purpose is to unite and promote the financial and human service programs of not-for-profit organizations serving Will County residents in the areas of health, welfare, recreation, education, and family support.

Wednesday, Sept. 23

■ SHARE/Leyden Family Services — A not-for-profit residential alcohol and substance abuse detoxification and rehabilitation treatment facility.

■ PARC — Provides educational, residential, vocational, speech, occupational and physical therapy to 685 adults and children.

Thursday, Sept. 24

■ Breaking Free, Inc. — Provides outpatient drug and alcohol counseling for adults and youths as well as placement referrals to facilities.

■ Plows Council on Aging — Assists people aged 60 and older in Palos, Lemont, Orland and Worth Townships who are physically and psychologically impaired with the tasks of daily living, personal care, financial and health matters and family

or personal problems.

Friday, Sept. 25

■ Sertoma Speech and Hearing Center — Provides services including speech therapy, hearing evaluations and hearing aids for adults and children as young as 6 weeks.

■ Care and Counseling Center — Provides women experiencing unplanned pregnancies and their families with free pregnancy tests, counseling, maternity and infant supplies, support groups and parenting classes.

The Combined Appeal provides employees with a way to contribute to the Metropolitan Chicago United Way/Crusade of Mercy, United Way Will County and 18 other charities. Employees will receive information from division coordinators on how to donate during the month of October.

More information on the campaign is available on the ACA home page on the World Wide Web at <http://www.anl.gov/ACA/aca-home.html>.

ANL-East's annual drive for charity starts Oct. 5

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to four Combined Appeal agencies: Proviso Association for Retarded Children (a United Way Crusade of Mercy organization); Alliance for the Mentally Ill of DuPage County; Fish, Inc., a clothing and food pan-

try; and Little City Foundation.

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More information on the campaign is available on the ACA home page at <http://www.anl.gov/ACA/aca-home.html>.

Internet class offered by ECT

Argonne employees can learn to use the World Wide Web in a class being offered Tuesday, Sept. 29, by the Electronics and Computing Technologies Division.

"Introduction to Internet Using Web Browsers" (ECT330) introduces PC users to the Internet and World Wide Web using their choice of the two major Web browser programs, Netscape or Microsoft Internet Explorer. Participants must be familiar with Windows 95.

The class will be held from 8:30 a.m. to 11:30 a.m. in Argonne-East's Building 201, Room 167C. Class size is limited to 10. Cost of the class is \$135.

NWU students present results

Seven Northwestern University graduate interns presented results of pollution prevention projects at Argonne-East Sept. 3.

The students are part of a graduate intern program sponsored by the Illinois Environmental Protection Agency. They were accompanied by their sponsors from Argonne, U.S. Post Office, Morton International, Motorola, Rock Island Arsenal and the City of Crystal Lake.

Seminars

Send seminar listings to Evie Fagan, Building 201, Room 2U-09 (OPA-201). Deadline is 5 p.m. Monday. Seminar listings *only* can be sent by e-mail to efagan@anl.gov. Note new e-mail address.

Monday, Sept. 21

Chemistry Division Monday Morning Seminar Series: **“What Can Neutron Scattering Tell Us About the Structure, Dynamics and Reaction of Adsorbates in Molecular Sieves?”** by Frans Trouw, (IPNS). 11 a.m., Bldg. 200 Auditorium.

Tuesday, Sept. 22

Physics Division Theoretical Physics Seminar: **“Gluon- and Ghost-propagators and Effective Quark Interactions in QCD from Wilsonian Flow-Equations”** by Bastian Bergerhoff, Technical University of Munich, Germany. 10:30 a.m., Bldg. 203, Conference Room B221.

Wednesday, Sept. 23

Decision and Information Sciences Division Seminar: **“United States Special Operations Command (USSOCOM) Technology Needs and Opportunities”** by Carlton Roberson, (DIS/SSG) 9 a.m., Bldg. 900 Conference Room J01.

Thursday, Sept. 24

Physics Division Theoretical Physics Seminar: **“Nuclear Physics on the Light Front”** by Gerald A. Miller, University of Washington, Seattle. 3:30 p.m., Bldg. 203, Conference Room B221.

Friday, Sept. 25

Physics Colloquium: **“Seeds of Cosmic Structure: Quantum Fluctuations in the Primordial Soup”** by Edward W. Kolb, Fermilab, Batavia, Ill. and The University of Chicago, Ill. 11 a.m., Bldg. 203 Auditorium.

Monday, Sept. 28

Chemistry Division Monday Morning Seminar Series: **“Properties and Reactions of Combustion Related Radicals by Laser Absorption Spectroscopy”** by Trevor Sears, Chemistry Department, Brookhaven National Laboratory, Upton, N.Y. 11 a.m., Bldg. 200 Auditorium.

High Energy Physics Division Theoretical Physics Seminar: **“Kinematics and Quantum Mechanics of Neutrino Oscillations — for Pedestrians”** by Harry J. Lipkin, Weizmann Institute, Rehovot, Israel and Tel Aviv University. 2 p.m., Bldg. 362, Conference Room E188.

Friday, Oct. 2

Joint Chemistry and Materials Science Divisions Seminar: **“Diffraction by Helical Structures: From DNA to Carbon Nanotubes”** by Amand A. Lucas, Physics Department, Facultes Universitaires Notre-Dame de la Paix, Bruxelles, Belgium. 11 a.m., Bldg. 200, Conference Room J193.

Intense Pulsed Neutron Source Division Seminar: **“Solvation Dynamics in Restricted Environments”** by Nancy Levinger, Colorado State University, Fort Collins. 11 a.m., Bldg. 360, Conference Room A224.

Monday, Oct. 5

Chemistry Division Monday Morning Seminar Series: **“Chiral Electrons in Atoms and Molecules”** by Roger Hegstrom, Department of Chemistry, Wake Forest University, Winston-Salem, N.C. 11 a.m., Bldg. 200 Auditorium.

Greater Chicagoland Particle Theory Meeting:

■ **“M-Theory and the Light Cone”** by Joseph Polchinski, ITP, Santa Barbara, Calif. 2:30 p.m., Bldg. 203 Auditorium.

■ **“QCD on a Laptop: The Fall and Rise of Lattice QCD”** by G. Peter Lepage, Cornell University, Ithaca, N.Y. 4 p.m., Bldg. 203 Auditorium.

Wednesday, Oct. 7

Materials Science Division Special Colloquium: **“Local Structure of Real Materials: From Catalytic Support Oxides to Superconductors”** by Takeshi Egami, Department of Materials Science & Engineering, University of Pennsylvania, Philadelphia. 11 a.m., Bldg. 212, Conference Room A157.

Many additional seminars appear on the Argonne News World Wide Web site:
<http://www.anl.gov/news.html>

Lemont Road clean-up walk set for Oct. 2

The Argonne Club and the Waste Minimization and Pollution Prevention Advisory Committee are sponsoring a clean-up walk near Argonne-East Friday, Oct. 2 (note change in date), from 3 p.m. to 5 p.m.

This year's walk coincides with National Pollution Prevention Awareness Week. Participants will meet at Westgate and remove trash along Lemont Road.

Bottled water and other refreshments will be provided for clean-up walk volunteers, courtesy of Marriott Corp.

To volunteer, or for more information, call Keith Trychta at ext. 2-1476 or the Waste Management and Pollution Prevention hotline at ext. 2-6778.

Volunteers at last year's walk picked up enough trash to fill fifty 55-gallon bags.

Software tools aid recovery of black gold

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the details of using a supercomputer.

PETSc is a good example of such a tool, Morgan said. “PETSc allows the applications scientists to build working applications based on ‘parts’ supplied by MCS,” he said. “You can get it off the shelf, so to speak, and have confidence that it will be successful.”



Argonne News is published weekly for Argonne employees by the Office of Public Affairs. Send news items to Editor Dave Jacques, Building 201, Room 2Q-02 (OPA-201). Voice: ext. 2-5582. Fax: ext. 2-5274. E-mail: info@anl.gov. Argonne-West correspondent: Gaylene Flores, Bldg. 752, ext. 3-7523. Deadline for all materials is 5 p.m. Monday. Argonne National Laboratory is operated by the University of Chicago for the U.S. Department of Energy. Vol. 51, No. 37.

Check the Argonne News Web site often for late-breaking news and seminar list updates:
www.anl.gov/news.html

Classified Ads

MISCELLANEOUS

WATER BED — King size bed w/mirrored headboard and shelves, 6 drawers, platform, heated motionless mattress. \$50 o.b.o - you haul. Stuart Martin, (630) 968-5840.

BEDROOM SET — Scandinavian design, wood, queen size headboard & frame, triple dresser, mirror & night stand, excellent condition. \$300 o.b.o. Barbara Meurer, (815) 725-1258.

BEANIE BABIES — Peanut the light blue elephant. \$20. Gracie the swan. \$15. Zip the cat. \$40. Squeals the pig. \$20. Jill Jonkouski, (773) 586-1664.

HAULER — 2.5' x 4', for attachment to lawn tractor, air tires, grease fittings, good condition. New \$100 - asking \$45. S. Schaus, (630) 662-0224.

MISCELLANEOUS — 4 head VCR, Panasonic, under warranty. \$170. Adjustable dining table, oak, w/4 chairs. \$250. Classical roll-up desk, walnut. \$200. Cedar chest. \$200. Filippas Patsiogiannis, (630) 527-0553.

LAWN TRACTOR — Murray, 12 HP, 40" cut, 6-speed,. \$400. Karen Taylor, (630) 257-5544.

MISCELLANEOUS — Acoustic guitar & case, 6-string, Signet model QF 102. \$100. Ski machine, Fitness Mater, model FM 340, like new. \$30. Amana gas dryer, Turbo 200, good working condition. \$50. Hydraulic stylist chair, vinyl covered, w/free standing station & big mirror, excellent condition. \$150. Allan Youngs, (630) 654-8110.

TICKETS — 2, Stomp tickets, percussion show, Sunday, Oct. 4, 1:30 p.m., Shubert Theater, show ends Oct. 18. Half price. Judy Beumer, (630) 554-1636.

DOLLS — International dolls, set of 12 w/stands, 8" dolls w/porcelain heads, hands & feet, dressed in costumes from various countries, excellent condition. \$175. Loretta Cescato, (630) 985-7742.

DISHWASHER — Frigidaire, portable, butcher block wood top, standard size, used for 1-year only. \$250. Yvette Collazo, (630) 910-6721.

MISCELLANEOUS — 2, Toro compact hoses, 50' each. \$10/each. Power flow power roller + extras. \$40. Remington pool alarm w/remote. \$25. Sears, 50,000 BTU torpedo heater w/5 gal. fuel can & battery pump. \$125. Bearcat, 16-channel programmable scanner. \$40/ Reflector kit. \$10. Marcia Konopa, (815) 436-1218.

MISCELLANEOUS — 10 gallon fish tank, complete set up. \$25. Men's 10-speed Schwinn bike, mint condition. \$50. Whistler Spectrum, 2 high performance radar detector w/pulse. New \$220 - asking \$40. Dave Carron, (815) 476-0337.

WORD PROCESSOR — Brother, Whisper Writer, model 7000 J, complete w/monitor, manual, new. \$135. Dale Mohr, (630) 305-7265.

MISCELLANEOUS — 2, dining room sets: 1, small, pecan wood, oval table w/1 leaf, table pads, new tablecloth & napkins, 4 chairs & hutch, excellent condition. \$250. 1, walnut table w/3 leaves, opens to 9', table pads, 6 chairs & match buffet. \$250. Assorted lawn chairs. 20" square grill w/charcoal, stands on legs on picnic table. \$10. Sunbeam pie maker, like new. New \$30 - asking \$10. Twin size bed, no headboard. \$35. Spice rack w/jars & spices. \$3. Paul Kurpis, (630) 971-1322.

Classified ad request forms are available in stockrooms, at the Office of Public Affairs in Building 201, and at Argonne-West's Building 752, Room D109. The old half-sheet forms are acceptable, but note that the deadline is incorrect. Deadline for classified ads is **5 p.m. Monday**.

Please note: All classified ads appear on Argonne's World Wide Web site and can be seen by the public.

Requests can be submitted by fax to ext. 2-5274, or by inter-office mail to Evie Fagan, Building 201, Room 2U-09 (OPA-201). A drop-off box is located at the *Argonne News* office, Building 201, room 2Q-02 and at 2U-09.

Request forms must be signed and must include a home phone number. Ads cannot be accepted by phone or electronic mail. Please limit ads to 25 words; longer ads may be edited. Housing listed for sale or rent is available without regard to race, creed, color or national origin.

Argonne-West employees are welcome to submit classified ads to *Argonne News*. Request forms are available at the office of Argonne-West Correspondent Dolores Lagerquist, Building 752, Room D109. When completed, fax the request form to the *Argonne News* office at (630) 252-5274.

MISCELLANEOUS — Basketball hoop backboard & pole, adjustable height. You haul. \$50. 32" steel entry door, excellent condition, top half glass. \$50. Laurie Scheiblein, (630) 427-1567.

TRAVEL TRAILER — 16', 4 bunks, toilet, awning, heater, stove, refrigerator, sink, dining table/bed. \$700 o.b.o. David Cook, (630) 983-9443.

COMPUTER — Macintosh IIsi, 13" RGB monitor, HP DeskWriter Printer, 9 MB memory, 50 MB hard disk, runs System 7 OS. \$175 o.b.o. Laurie Tyzenhaus (815) 254-2979.

YARD SALE — Multi-family, Sat. Sept. 19, 9 a.m. - 12 p.m., 900 block of N. Marion St., Oak Park, one block east of Harlem & Division. Mark Knickelbein, (708) 848-6536.

BOAT - 24' C&C sailboat, includes trailer, dinghy, and 2 motors, call for list of all equipment included. Lee Harris, (815) 723-5903.

NORDIC TRACK — Sequoia Skier, excellent condition. Will deliver to lab. New \$400 - asking \$150. Ralph Hinterman, (708) 481-6599.

PLAY STATION — Mad Catz, steering wheel w/foot pedals, analog & digital, brake, accelerator, directional pad, start button, stick shift, less than 1-year old. \$30. Cindy Doran, (815) 838-4609.

CHIPPER/SHREDDER — Sears, 8 hp, excellent condition, air tires, used only 10 times. \$300. Blakey Ryan, (708) 403-8278.

MISCELLANEOUS — New, white topaz set in sterling silver bracelet. \$25. 2-tone herringbone bracelet. \$22. 2-tone braided herringbone necklace. \$20. Chuck Gettemy, (630) 910-0462.

CARPET — Off white/natural color, approximately 8' x 10' Berber, like new, used only 1 year. \$30. Rhonda Houston, (708) 481-2291.

GARAGE SALE — 314 Healy Ave., Romeoville, Sept. 18 & 19, Christian books, clothes, computer printer, Barbies and clothing, toys, stamp collection, Power Ranger card collection, etc. Ronald Dettling, (815) 886-1152.

MISCELLANEOUS — Selkirk paperweight, signed & numbered. \$75. Robert Fabe signed & numbered print, Spring Day, not framed. \$20. Trampoline, 42" round. \$40. Exercising poles w/2 videos. \$10. Martha Teitlus, (708) 233-2654.

MISCELLANEOUS — 12" television, black & white. \$20. VCR. \$30. Exercise bike. \$10. Regular bikes, 10-speed, 26" & 27". \$15/each. Al Svirmickas, (708) 633-0545.

AUTOMOBILES

1980 MERCEDES — 300 diesel, AT, AC, good condition, green. \$2,750 o.b.o. Gene Palys, (708) 354-2088.

1989 FORD — Mustang LX, hatchback, 5.0, 84.5K miles, fully equipped, dove grey, too many high-performance parts to list, excellent condition. \$7,250 o.b.o. Chuck Gettemy, (630) 910-0462.

1992 CHEVROLET — Camaro RS, 25th anniversary, 305, V8, runs good, recent tune-up, new battery, alternator & brakes. \$4,900. Laura Schmidt, (708) 499-2854 - after 5 p.m.

1992 PLYMOUTH — Voyager, AC, cruise, captain's chairs, one-owner, excellent condition. Retail \$6,400 - asking \$5,150. Lou Harnisch, (630) 257-2345.

1987 FORD — Conversion van, hi-top 302 V8, excellent condition, loaded, 75K miles, 4 captain chairs, folding rear seat into bed, color TV, CB radio, excellent tires, brakes & exhaust system. \$3,700 o.b.o. Dale Mohr, (630) 305-7265.

1994 INFINITI — G20, black, leather, S./R, C, alarm, all power, 52K miles, mint condition. Priced between NADA wholesale & retail. Dennis Karras, (708) 771-8981.

1996 PLYMOUTH — Neon, 4-door sedan, AC, AM/FM stereo w/cassette, 3-speed, AT, 30K miles. \$7,800. John Kennedy, (630) 852-4415.

1987 TOYOTA — Celica, 2-door, AT, AC, PS, AM/FM CD, southern car, no rust, no dents, 150K highway miles, burns no oil, recent brakes, transmission, front & rear struts, tires, sound system. \$2,600 o.b.o. George Stanford, (630) 969-1148.

1987 HONDA — Civic, 2-door hatchback, 4-speed, 144K miles, good running condition. \$750 o.b.o. Anil Thakkar, (630) 355-6940.

1988 PONTIAC — Grand Am, AC, AT, AM/FM cassette, cruise control, tilt wheel, PW, PS, 94K miles, good condition, no engine oil leak. \$1,200 o.b.o. Xingyue Li, (630) 493-1107 or <Daniel.X.Li@ual.com>.

1986 MAZDA — 626, 2-door, AT, PS, PB, PM, PW, cruise, powered sun roof, AM/FM cassette, runs well, new resonating pipe, battery, starter motor, exhaust pipe, muffler changed in '97. \$1,500. Subhendu Ghosh, (630) 960-2889.

1993 CHEVROLET — Cavalier, 2-door, new brakes, low mileage, runs well. \$6,000 o.b.o. Sheena Coleman, (630) 904-9952.

1989 FORD — Escort, 4-door, station wagon, AT, AM/FM cassette, new rebuilt transmission, replaced brakes & radiator, clean, good shape, runs excellent, 99.5K miles. \$1,900 o.b.o. Hong Zheng, (630) 455-6289.

1994 CHEVROLET — Cavalier, excellent condition, 74.5K miles, new tune-up, oil change, brakes, good tires, stick, shift, runs very well. \$3,200 o.b.o. Mary Ann Bludgen, (708) 301-2661.

HOUSING

CONDO/RENT — Available Oct. 1, The Knolls, Willowbrook, large one bedroom w/fireplace unit, lake view, completely remodeled, new kitchen, bath, carpeting, close to bus & train, includes heat & water., pools, tennis courts & weight room. \$700/month. Jim Oprzedek, (773) 586-0044.

APARTMENT/RENT — 2 bedrooms, historic Lemont, yard, garage, free washer/dryer, hard wood floors, much more. Tim Jonasson, (815) 838-5867.

HOUSE/SALE — 8315 Helen Court, Downers Grove, IL., 10 minutes from lab., 2-story, 3,250 sq. ft., 3 bedrooms, 2 baths on second floor, kitchen w/dinette, family room, formal dining room, living room, bath on main floor, finished basement. \$249,900. John Hansen, (208) 523-4445.

HOUSE/RENT — Ranch, 3 bedrooms, 1 bath, 1-car garage, fireplace, new 6-panel pine bedroom doors w/more upgrades throughout, Wheaton schools, swimming pool, Jacuzzi, pool table & more, easy access to I-88 & shopping. \$1,175/month + first months rent & security deposit. Thomas Meier, (630) 393-3688.

HOUSE/SALE — Bolingbrook, 3 bedrooms, hardwood floors, 9' ceilings, library w/built-in bookcase & computer center, extensive landscaping, 15 minutes to lab. \$185,900. Mark Petri, (630) 759-2670.

HOUSE/SALE — Berwyn, 6 rooms, 3 bedrooms, 1.5 baths, full basement newer furnace, fenced in yard, 50' x 125' lot, near train, buses, hospital and schools. Kathy Vana, (708) 788-1777.

HOUSE/SALE — 2725 Valley Forge, Lisle, Green Trails, elegant Georgian w/over 2,700 sq. ft., 4 bedrooms, 2.5 baths, 2 -car garage, oak trim through w/6 panel doors, master suite w/sitting room, huge walk-in cedar deck, side load garage, professionally landscaped yard, new roof, school district 203. \$272,443. Steve Choi, (630) 369-0496.

WANTED

FAX MACHINE — Jill Jonkouski, (773) 586-1664.

INFANT CAR SEAT — Seat w/detachable base, good condition & reasonably priced. Dawn Ferrazzi, (815) 836-8359.

SLIDE TROMBONE — In good condition. Gary Griffin, (815) 725-5524.

BABY ITEMS — Baby cradle, double stroller, infant & convertible car seats in good condition, reasonably priced. Gloria Walach, (708) 450-9062.

TO BE GIVEN AWAY

KITTEN — Tabby, male kitten, Morris coloring, 8-9 months, extremely friendly, neutered w/shots, found abandoned. Joanne Fink, (630) 305-9285.

Argonnet The information source for Argonne employees
<http://www.anl.gov/OPA/argonnet/>